

Nano-Net 2006: 1st International Conference on Nano-Networks

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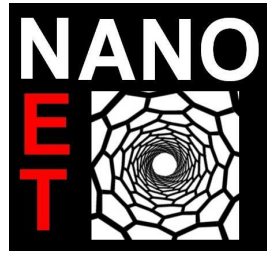
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Sponsors: Create-Net, ICST, EU (IST-FET), ENIAC, IEEE CAS & CEDA
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CALL FOR PAPERS

SCOPE: The Nano-Net conference positions itself at the intersection of two worlds, namely, emerging nano-technologies on one-side, and network/communication theory on the other side. The standing question that this conference will address is: What are the new communication paradigms that derive from the transition from micro- to nano-scale devices? The related degrees of freedom and constraints associated with these new technologies will change our notions about efficient network and system design. Nano-Net provides a multi-disciplinary forum for the discussion of new techniques in modeling, design, simulation, and fabrication of network and communication systems at the nano-scale.

PAPERS: The conference invites original technical papers that have not been previously published and are not currently under review for publication elsewhere. Contributions addressing all subjects pertaining to nano-technology & networking are solicited. Suggested topics include, but are not limited to, the following:

1. Networks-on-Chip (NoC)
Network architectures and topologies, NoC performance and trade-off analysis, Energy efficiency and power management, CAD flows for NoCs and MP-SoC platforms, Fault tolerance and reliability issues
2. Innovative System Interconnects
Nano-technologies and devices for on-chip interconnects (CNTs, semic., metallic and DNA-templated nanowires), Molecular, optical and wireless interconnects, Interconnects for non-charge-based devices
3. Architectures and Systems for Nano-Networks
Implications of nano-networks on processor and memory architectures, New computing paradigms for nano-networks, Hybrid CMOS-nano network systems, Self-organization in nano-scale systems
4. Novel Information Theory Aspects of Nano-Networks
Re-configurability of nano-networks, Statistical mechanics approach to nano-communications, Routing/addressing issues in nano-networks, Nano-coding, Applications of complex networks theory
5. Modeling, and Simulation of Nano-Networks
Physical characterization/modeling of nano-scale interconnects and devices, Fault-tolerant aspects of nano-devices, Self-healing properties of nano-networks, "Nano-CAD", Bio-inspired aspects
6. Nano-Scale Wireless Communications
Nanoscale Electromagnetics, Propagation models for nanoscale communications, planning and optimization, nanoscale antennas, nano-arrays, EMI aspects at nanoscale, reconfigurability issues

SUBMISSION INSTRUCTIONS: Prospective authors are encouraged to submit a PDF version of the full paper in English language. Papers are limited to 5 two-column pages, in a font no smaller than 10-points. Style guides and further information are available on the conference website: <http://www.nanonets.org>. Presentation will be oral or in a poster format, as deemed more appropriate by the Technical Program Committee.

PUBLICATION: All submitted papers will be subject to a rigorous peer-review. Accepted papers will be published by the IEEE in the Nano-Net Conference Proceedings, and made available online through IEEE Xplore. A selected number of high-quality papers will be considered for publication in the ACM Journal on Emerging Technologies in Computing Systems (JETC). Also, selected papers with a strong nanoscale device component will be reviewed for publication in a Special Section of the IEEE Transactions on Nanotechnology.

SPECIAL SESSIONS: Proposals for Special Sessions, especially focusing on future applications of nano-networks are encouraged. Potential Special Session organizers should submit a proposal of at most 5 pages, including scope/motivation of the session, list of invited papers (still subject to peer-review) and short-bio of the organizer(s). Proposals should be submitted by e-mail to: special-sessions@nanonets.org (Prof. Mircea Stan).

IMPORTANT DATES:

Paper Submission Due	<u>May 30th, 2006 (hard deadline)</u>
Notification of Acceptance	July 15th, 2006
Final manuscript Due	August 1st, 2006

